The electric drive system (1) operated by muscle power comprises a foot pedal (5) and a mechanical generator (6) connected to it mechanically, an electric transmission (4) and an electric control system (20) with a control program (21) of the generator, which is able to generate a counter or load moment GM. In a vehicle (2), the drive system comprises a starting control system (22) for the generator, by means of which a standstill pedal resistance TW and a high starting moment MA is produced at the foot pedal. Utilised in a stationary training apparatus (3), the drive system comprises a motor operation control system (23) with a bi-directional converter (31), by means of which the generator is also able to be operated as a motor.

(Figure 1)